

Note on the Variable Star η Argus. By Col. E. E. Markwick.

As the recorded observations of the magnitude of this historic variable star appear to have been but few and far between in past time, and as I made a pretty careful determination of it in the years 1883 and 1884, I think it worth while to record it.

The observations were made at Pietermaritzburg, Natal, with a $2\frac{3}{4}$ -inch refractor, eyepiece, power about 28.

1883	Dec. 28	7.5	Two or three steps < D; about = B.
1884	Feb. 5	7.54	Between B and D in brightness.
	Feb. 18	7.6	While observing, a cloud came over, dimming η and the surrounding stars. I thus had a good opportunity of noting the different times of disappearance of the stars. After careful observation I came to the conclusion that it was about = D in brightness.
	June 19	7.46	Between stars A and B in brightness.
	20	7.46	As before.

The comparison stars used were :

		m.	
A = B	3202	7.44	} As at p. 256. <i>Uran. Arg.</i>
B = B	3204	7.48	
D = G	1332	7.60	

There was little or no variation apparently while the star was under observation, so I think the net result of the above may be taken as

1884.23 7.51

My glass was then only provided with a very rough equatorial stand without circles, but I made certain of the identification of η on 1883 June 20 when I compared its position with that of star D. Using an eyepiece with three threads, one parallel to a circle of declination, and two each inclined 45° to the former, the telescope was adjusted so that D ran along the central thread. Then the times of D passing the centre and of η Argus passing the two threads were noted eight times. A mean of these was taken, and with the corresponding differences in R.A. and Dec. the position of η was ascertained, that of D being taken from the *U. Arg.* The resulting position ($10^h 40^m 14^s$ R.A. $59^\circ 1' 6''$ S. Dec.) was such as to ensure and fix at once the correct identification of η , differing as it did from the catalogue position by 1^s only in R.A. and $0'.1$ in Dec. This procedure was very necessary, as the variable is surrounded by numbers of stars of about the same degree of brightness, from which by its appearance alone I found it at first impossible to distinguish it.

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Moreover, to add to possible confusion, the circle indicating variability is placed round the wrong star in the U.A. Map, viz. No. 227 (U.A.) *Carinae*, a star a little to the S. of the true variable. This error is, however, duly noted in the body of the work.

Combining my result with the data in Mr. Innes's Paper (*Monthly Notices*, vol. lix. p. 570) we get the following :—

1884·23	7·51
1886·2	7·60
1896·4	7·58
1897·2	7·60
1899·5	7·71

It would hence appear that this star, which once (1843) exceeded every star but *Sirius* in brightness, has, for the sixteen years 1883–1889 remained at or about $7^m\cdot6$ with a possible slight tendency to diminish in magnitude.

*Observations of Meteors at the Royal Alfred Observatory,
Mauritius, 1899 November.*

(Communicated by T. F. Claxton.)

The Leonid display witnessed at Mauritius was but meagre, though the results may be of some value as indicating what occurred at this station, whose latitude is $20^{\circ} 5' 39''$ S., and longitude $3^h 50^m 12^s\cdot6$ E.

Watch was kept by three observers on the mornings of November 14 and 15 (from midnight to sunrise), and on the 16th one observer watched at intervals, but saw no meteors.

It is probable that the maximum occurred after sunrise.

On November 14 the Moon set at 2.20 A.M., and at 3.5 A.M. on the 15th.

Until 2 A.M. on the 14th the sky in the neighbourhood of the radiant was occasionally covered with very thin misty clouds through which bright stars only were faintly visible, otherwise the weather on each night was fine and clear.

The zodiacal light was observed on the 14th and 15th. The axis of the cone at 2.30 on each morning appeared to extend from α *Leonis* along a parallel of declination to the horizon, the apex gradually receding from that star as the morning advanced, or, in other words, keeping at an approximately constant altitude. The base stretched for about 20° along the horizon. No pink tinge was distinguishable.